Question Paper with Final (Revised) Answer Key for the Post of **Assistant Director Factories (Mechanical)** held on 05-03-2019

Itemcode : **AF1001**

Q1: If a satellite is orbiting around earth and its K.E. is doubled, then its:

A	Orbits at higher
B	Orbits in elliptical
C	Falls back on earth
D	Escape from earth's pull path.

Correct Ans: **D**

Itemcode : **AF1002**

Q2: The point of contra flexure occurs in:

A	Simply supported beam only.
B	Cantilever bam only
C	Continuous beam only.
D	Overhanging beam only.

Correct Ans: **D**

Itemcode : **AF1003**

Q3: As per Lame's equation, the hoop stress for thick cylinder at any point is:

A	$(A + B/r^3)$
B	$(A/r - B)$
C	$(A + B/r^2)$
D	$(A + Br)^2$

Correct Ans: **C**

Itemcode : **AF1004**

Q4: Match the approaches given below to perform stated kinematics / dynamics analysis of machine.

Analysis	Approach
P. Continuous relative rotation	1. D'Alembert's principle.
Q. Velocity and acceleration	2. Grubler's criterion
R. Mobility	3. Grashoff's law
S. Dynamic-static analysis	4. Kennedy's theorem

A	P-1, Q-2, R-3, S-4;
B	P-3, Q-4, R-2, S-1
C	P-2, Q-3, R-4, S-1;
D	P-4, Q-2, R-1, S-3

Correct Ans: **B**

Itemcode : **AF1005**

Q5: Principal stresses induced in a material are 60 MPa, 30 MPa and -20 MPa, E= 80 GPa, v = 0.20. The value of total strain energy per unit volume is :

A	24.5 kN-m/m^3
B	49 kN-m/m^3
C	30.63 kN-m/m^3
D	61.25 kN-m/m^3

Correct Ans: **C**

Itemcode : **AF1006**

Q6:

	For 30^{o} angle of friction of efficiency of a screw thread is:
A	75%
B	50%
C	33%
D	60%
Correct Ans: **C**	

Itemcode : **AF1007**

Q7: Lengths of two simple pendulums are in the ratio 16:1. They start vibrating together and are in same phase once again after the smaller pendulum has made n oscillations. The value of n is :

A	2/3
B	3/2
C	4/3
D	¼
Correct Ans: **C**	

Itemcode : **AF1008**

Q8: The stress-strain relation of Newtonian fluid is:

A	Logarithmic
B	Hyperbolic
C	Inverse Type
D	Straight line
Correct Ans: **D**	

Itemcode : **AF1009**

Q9: A model of torpedo is tested in a towing tank at a velocity of 36 m/sec. The prototype is assumed to attain a velocity of 6 m/sec. What model scale should be used?

A	1:3
B	1:4.5
C	1:6
D	$1:(6)^{1/2}$
Correct Ans: **D**	

Itemcode : **AF1010**

Q10: A centrifugal pump is required to pump water to an open tank situated 4 km away from the location of the pump through a pipe of diameter 0.2 m having Darcy's friction factor of 0.01. The average speed of water in the pipe is 2 m/s. If it is maintain a constant of 5m in the tank, pressure at the pump exit is:

A	0.449 bar
B	5.503 bar
C	44.911 bar
D	55.203 bar
Correct Ans: **B**	

Itemcode : **AF1011**

Q11: Cavitation gives damage to turbine on:

A	Outlet on the convex side.
B	Exit side of casing.
C	Inlet on concave side of blades.
D	Inlet on the convex side of blades.
Correct Ans: **A,B**	

Itemcode : **AF1012**

Q12: A hydro-electric sit has a head of 100 m and an average discharge of $10m^3/s$. Assume 92% efficiency, for a greater speed of 6000 rpm, the specific speed of turbine would be:

A	1500
B	1000
C	1900
D	18024

Correct Ans: **D**

Itemcode : **AF1013**

Q13: For sublimation process which of the following are in equilibrium?

A	Solid and liquid phase
B	Solid and vapour phases
C	Solid, liquid and vapour phases
D	None of the above.

Correct Ans: **B**

Itemcode : **AF1014**

Q14: Bleeding is the process incorporating:

A	Extracting heat from pre-heating feed water.
B	Removing condensed steam
C	Leakage of steam
D	Producing high pressure steam.

Correct Ans: **A**

Itemcode : **AF1015**

Q15: In a Carnot cycle operating between 200^oC and -20^oC. If the system receives 90kJ from the source then the net work done is:

A	38.65 kJ
B	36.5 kJ
C	42.84 kJ
D	62.54 kJ

Correct Ans: **C**

Itemcode : **AF1016**

Q16: Nitrogen at an initial state of 10 bar, $1m^3$ and 300K is expanded isothermally to final volume of $2m^3$. The p-v-T relation is $(p + a/v^2)v = RT$, where $a > 0$. The final pressure;

A	Will be slightly less than 5 bar
B	Will be slightly more than 5 bar
C	Will be exactly 5 bar
D	Cannot be ascertained in absence of value of a.

Correct Ans: **B**

Itemcode : **AF1017**

Q17: Hydrogen gas is enclosed in a piston cylinder arrangement at a pressure of 3 bar and 300K. The cylinder has a volume of 1.5 m^3. The process undergoes isothermal expansion to 3 m^3. Work done by gas is:

A	311kJ
B	251 kJ
C	350kJ
D	425kJ

Correct Ans: **A**

Itemcode : **AF1018**

Q18: On Mollier chart a flow through a turbine is represented by:

A	Horizontal line
B	Vertical line
C	Curved line convex up
D	Curved line concave up

Correct Ans: **B**

Itemcode : **AF1019**

Q19: Knocking in a compression ignition engine will increase:

A	To a certain limits and then no change
B	By increasing compression ratio
C	Both fuel and air is sucked
D	None of the above.

Correct Ans: **D**

Itemcode : **AF1020**

Q20: A turbo-charged four stroke direct injection diesel engine has a displacement volume of 25.9 liters. The engine has an output of 950 kW at 2200 rpm. The mean effective pressure in MPa is closest to:

A	2
B	1
C	0.2
D	0.1

Correct Ans: **A**

Itemcode : **AF1021**

Q21: Which of the following is an example of transient heat flow?

A	Current carrying conductors
B	Spherical conductor carrying superheated steam
C	Heating and cooling of enclosures due to solar radiations
D	Cooling of water.

Correct Ans: **C**

Itemcode : **AF1022**

Q22: A laminated wall is made-up of 0.1 m thickness with k = 3. It has two more insulations one on each side of it. One has thickness of 0.10 m and k =0.1 and other has thickness of 0.10 and k = 1.2. The unit of 'k' is kcal-m/hr m^2 ^{0}C. The effective surface area of wall is 1.5 m^2 and temperature difference is 600k, then heat transfer rate is:

A	818 kcal/hr
B	992 kcal/hr
C	8810 kcal/hr
D	81.8 kcal/hr

Correct Ans: **A**

Itemcode : **AF1023**

Q23: Which of the following law signifies the wave length for maximum emissive power:

A	Wein's law
B	Stefan – Bolzmann law
C	Newton's law
D	Kirchhoff's law

Correct Ans: **A**

Itemcode : **AF1024**

Q24: A 100 W electric bulb was switched on in a 2.5 m x 3 m x 3 m size thermally insulated room having a temperature of 20^0C. The room temperature at the end of 24 hours will be:

Given: ρ = 1.24 kg/m^3 and C_v = 720 J/kg K.

A	321^0C
B	341^0C
C	450^0C
D	470^0C

Correct Ans: **C**

Itemcode : **AF1025**

Q25: Refrigerant flow is controlled by:

A	Capillary tube
B	Condenser
C	Solenoid
D	Expansion valve

Correct Ans: **C**

Itemcode : **AF1026**

Q26: For refrigeration system work done per kg of air is 30 kcal and heat extracted per kg of air is 45 kcal. Amount of refrigerant used is 10 kg. The coefficient of performance of system is:

A	6.52
B	1.50
C	10.56
D	0.67

Correct Ans: **B**

Itemcode : **AF1027**

Q27: Atmospheric air flowing at rate of 4 kg/s enters the cooling and dehumidifying coil with enthalpy value of 90 kJ/kg of dry air and has humidity rate of 20 gram/kg dry air. When it leaves the coil it has humidity ratio 10 gram/kg of dry air and enthalpy of 50 kJ/kg of dry air. Condensate water leaving coil has enthalpy of 70kJ/kg. The cooling capacity of coil in kW should be:

A	110.1
B	132.4
C	162.8
D	115.4

Correct Ans: **C**

Itemcode : **AF1028**

Q28: Riddle is basically used to:

A	Mixing and tempering the moulding sand
B	Remove foreign particles from the sand
C	Shape and smoothen the mould surface
D	Drawn pattern from mould

Correct Ans: **B**

Itemcode : **AF1029**

Q29: In a gating system, the ratio 1:2:4 represents

A	Sprue base area: runner area: ingate area
B	Pouring basin area: ingate area: runner area
C	Spure base area: ingate area: casting area
D	Runner area: ingate area: casting area

Correct Ans: **A**

Itemcode : **AF1030**

Q30: A cubic casting of 100 mm side undergoes solidification shrinkage of 5% and phase transformation shrinkage of 4%. The net side of cube after solidification would be, in mm:

A	96.2 6
B	95.43
C	96.97
D	91.00

Correct Ans: **C**

Itemcode : **AF1031**

Q31: Mismatch defect in fording takes place due to:

A	Incorrectly aligned dies.
B	Weak striking force
C	Improper heating and cooling of forging
D	Wrong material composition

Correct Ans: **A**

Itemcode : **AF1032**

Q32: Sintering in powder metallurgy:

A	Strengthens the component
B	Increases electrical conductivity
C	Increases density and ductility
D	All of the above

Correct Ans: **D**

Itemcode : **AF1033**

Q33: During a single pass rolling process, the thickness of metallic sheet is reduced from 18 mm to 12 mm, Roll diameter is 500 mm. Angle of bite in degrees is:

A	5.24
B	4.79
C	8.83
D	6.68

Correct Ans: **C**

Itemcode : **AF1034**

Q34: Copper is welded by:

A	Neutral flame
B	Oxidising flame
C	Carburising flame
D	None of the above

Correct Ans: **S** **(S Denotes question scrapped and weight-age to all)**

Itemcode : **AF1035**

Q35: In an arc welding process, the voltage and current are 25 V and 300 A respectively. The arc heat transfer efficiency is 0.85 and welding speed is 8 mm/sec. The net heat (in J/mm) is:

A	64
B	797
C	1103
D	79700

Correct Ans: **B**

Itemcode : **AF1036**

Q36: Side rake angle is:

A	Positive if its slope is towards cutting edge
B	Positive if its slop is away from cutting edge
C	Cannot be zero
D	Always negative

Correct Ans: **B**

Itemcode : **AF1037**

Q37: The slip-line fields theory is basis of which of the following?

A	Merchant theory
B	Ernst-Merchant theory
C	Stabler theory
D	Lee and Shaffer theory

Correct Ans: **D**

Itemcode : **AF1038**

Q38: As per ISO, the grading for carbide tool for cast iron and non-ferrous steel is expressed as:

A	K_{01} to K_{40}
B	P_{01} to P_{60}
C	M_{10} to M_{30}
D	None of these

Correct Ans: **A**

Itemcode : **AF1039**

Q39: In orthogonal turning of a low carbon steel bar of diameter 150 mm with uncoated carbide tool, the cutting velocity is 90 m/min. The feed is 0.24 mm/ rev and the depth of cut is 2 mm. The chip thickness obtained is 0.48 mm. If the orthogonal rake angle is zero and cutting edge angle is 90^0, the shear angle in degree is:

A	20.56
B	26.56
C	30.56
D	36.56

Correct Ans: **B**

Itemcode : **AF1040**

Q40: The tool of an NC machine has to move along a circular arc from (5.5) to (10.10) while performing an operation. The center of the arc is at (10.5). Which one of the following NC tool path commands perform the above mentioned operation?

A	N010 G02 X10Y10 X5Y5 R5
B	N010 G03 X10Y10 X5Y5 R5
C	N010 G01 X5Y5 X10Y10 R5
D	N010 G02 X5Y5 X10Y10 R5

Correct Ans: **D**

Itemcode : **AF1041**

Q41: Which of the following is not a limit gauge?

A	Go and Not Go gauges
B	Thread gauge
C	Taper gauge
D	Voltmeter

Correct Ans: **D**

Itemcode : **AF1042**

Q42: The path difference between one bright band and nearest dark band in interferometer is:

A	One wavelength
B	Two wavelength
C	Half of wavelength
D	None of these

Correct Ans: **C**

Itemcode : **AF1043**

Q43: Delphi method is used for:

A	Technological forecasting
B	Developing new products
C	Acquiring new capacity and penetrating new market
D	All of the above

Correct Ans: **D**

Itemcode : **AF1044**

Q44: Which of the following is not a direct inventory?

A	Raw material
B	Purchased parts
C	Finished goods
D	Tools

Correct Ans: **D**

Itemcode : **AF1045**

Q45: Kanban is a Japanese word meaning:

A	Efficient working
B	Reducing wastage
C	Signal
D	Prompt action

Correct Ans: **C**

Itemcode : **AF1046**

Q46: The demand and forecast for February are 12000 and 10275, respectively. Using single exponential smoothening method (smoothening coefficient = 0.25), forecast for the month of March is:

A	431
B	9587
C	10706
D	11000

Correct Ans: **C**

Itemcode : **AF1047**

Q47: CNC machines are also called:

A	Soft-wired
B	Hard-wired
C	Hard as well as soft wired
D	None of these

Correct Ans: **A**

Itemcode : **AF1048**

Q48: NC contouring is an example of:

A	Continuous path positioning
B	Point-to-Point positioning
C	Absolute positioning
D	Incremental positioning

Correct Ans: **A**

Itemcode : **AF1049**

Q49: In Hungarian method the optimum solution is defined by:

A	Negative value of total cost
B	Positive value of total cost
C	Zero total cost
D	None of these

Correct Ans: **C**

Itemcode : **AF1050**

Q50: Critical path is:

A	Shortest path and consumes minimum time
B	Shortest path and consumes maximum time
C	Longest path and consumes maximum time
D	No such relationship exists

Correct Ans: **C**

Itemcode : **AF1051**

Q51: The expected waiting time in queue:

A	$\mu / \lambda(\mu-\lambda)$
B	$\lambda / \mu(\mu - \lambda)$
C	$\mu / \lambda(\mu + \lambda)$
D	$\lambda(\mu - \lambda) / \mu$

Correct Ans: **B**

Itemcode : **AF1052**

Q52: Market demand for springs is 8 lakh per annum. A company purchases these springs in lots and sells them. The ordering cost is Rs. 1200/-. The storage cost is Rs. 120/- per stored piece per annum. The economic order quantity is:

A	400
B	2,828
C	4,000
D	8,000

Correct Ans: **C**

Itemcode : **AF1053**

Q53: A body is moving with uniform acceleration. In 4th second of its travel it covers 20 m and 30 m in 8th second. The distance travelled at the 10th second is (in m):

A	24
B	35
C	43
D	52

Correct Ans: **B**

Itemcode : **AF1054**

Q54:	At a certain cross-section, a shaft of 100 mm diameter is subjected to a bending moment of 4 kNm and a twisting moment of 8 kNm. Maximum principal stress induced (in N/mm^2) in the section is.
A	72.8
B	6.17
C	65.9
D	68.6
Correct Ans: **C**	

Itemcode : **AF1055**

Q55:	A simple gear train consists of gear A and B, having module 2 mm and centre distance of shafts equal to 115 mm. If the pitch circle diameter of driver (gear A) is 46 mm, the train value of the gear train is:
A	½
B	1/3
C	¼
D	1/2.5
Correct Ans: **C**	

Itemcode : **AF1056**

Q56:	In a plate clutch, the axial force is 4 kN. The inside radius of contact surface is 50 mm and the outside radius is 100 mm. For uniform pressure, the mean radius of friction surface will be:
A	78 mm
B	60 mm
C	75 mm
D	80 mm
Correct Ans: **A**	

Itemcode : **AF1057**

Q57:	The journal diameter of a full journal bearing is 60 mm. The diameter of the bush bore is 60.06 mm and bush length is 30 mm. If the journal rotates at 1500 rpm and the average viscosity of lubricant is 0.03 Ns/m^2, the power loss will be:
A	60.2 W
B	90.7 W
C	102.8 W
D	125.5W
Correct Ans: **D**	

Itemcode : **AF1058**

Q58:	If point G, M and B denote the centre of gravity meta-centre and center of buoyancy for a body floating in liquid, the sufficient condition for the body to be stable is:
A	Point M being above point G
B	point M being above point B
C	point B being below point G
D	point M being below point B
Correct Ans: **A**	

Itemcode : **AF1059**

Q59:	For flow over a plate the hydrodynamic boundary layer thickness is 0.5 mm. The dynamic viscosity is 25 X 10^{-6} kg/m, specific heat is 2.0 kJ/kg K and thermal conductivity is 0.05 W/ mK. The thermal layer thickness would be:
A	0.1 mm
B	0.5 mm
C	1 mm
D	2 mm
Correct Ans: **B**	

Itemcode : **AF1060**

Q60: A black body emits radiation of maximum intensity at a wavelength of 0.5 μm. Calculate its emissive power.

A	58.107 MW/m^2
B	68012 MW/m^2
C	38.2 MW/m^2
D	48.27 MW/m^2

Correct Ans: **A**

Itemcode : **AF1061**

Q61: 1600 kJ of energy is transferred from a heat reservoir at 800 K to another heat reservoir at 400 K. The amount of entropy generated during the process would be:

A	6 kJ/K
B	4 kJ/K
C	2 kJ/K
D	Zero

Correct Ans: **C**

Itemcode : **AF1062**

Q62: When the mixture is lean:

A	efficiency is less
B	power output is less
C	maximum temperature and pressure are higher
D	All of the above

Correct Ans: **B**

Itemcode : **AF1063**

Q63: A single-stage impulse turbine with a diameter of 100 cm runs at 2500 rpm. If the blade speed ratio is 0.4, then the inlet velocity of the steam will be:

A	400 m/s
B	327 m/s
C	250 m/s
D	127 m/s

Correct Ans: **B**

Itemcode : **AF1064**

Q64: A spherical shell with internal diameter 320 mm and external diameter 640 mm is subjected to an internal fluid pressure of 75 N/mm^2 . The hoop stress developed at the outer surface will be:

A	15.132 N/mm^2
B	16.071 N/mm^2
C	14.067 N/mm^2
D	17.173 N/mm^2

Correct Ans: **B**

Itemcode : **AF1065**

Q65: Half span of a simply supported beam of length L is subjected to a uniform distributed load of w/unit length. Deflection at the centre of the beam is:

A	5/384 wL^4
B	5/768 wL^4
C	7/384 wL^4

D	$7/768\ wL^4$

Correct Ans: **B**

Itemcode : **AF1066**

Q66: The number of links in a planer mechanism with only revolute joints having 21 instantaneous centers is:

A	5
B	6
C	7
D	8

Correct Ans: **C**

Itemcode : **AF1067**

Q67: Mass of a flywheel is 5000kg and radius of gyration is 1.8 m. From the turning moment diagram maximum fluctuation of energy is found to be 52 kJ. If the mean speed of engine is 120 rpm, its maximum speed is :

A	115.6 rpm
B	121.22 rpm
C	128.34 rpm
D	132.58 rpm

Correct Ans: **B**

Itemcode : **AF1068**

Q68: A 4-stroke, 4-cylender diesel engine running at 1200 rpm develops 70 kW. Given parameter are:

Brake thermal efficiency = 30% ;

Calorific value of fuel = 42,000 kJ/kg;

Engine bore = 150 mm;

Engine stroke = 120 mm ;

Air-fuel ration = 15:1 ;

Mechanical efficiency = 0.85

Density of air = 1.15 kg/m^3 :

Air consumption (in m^3/s) is :

A	0.07246
B	0.06124
C	0.1294
D	0.007432

Correct Ans: **A**

Itemcode : **AF1069**

Q69: A room contains 40 kg of dry air and 0.5 kg of water vapour. The total pressure and temperature of air in the room are 100 kPa and 27^o C, respectively. Given that the saturation pressure for water at 27^o C is 3.2 kPa, the relative humidity of the room is:

A	64.32%
B	52.34%
C	61.56%
D	67.37%

Correct Ans: **C**

Itemcode : **AF1070**

Q70:

Match the list- I and list- II.

List - I	List - II
P : Cooling and dehumidification	**1:** DB increases and DP decreases
Q: Chemical dehumidification	**2 :** DP increases and DB is constant
	3 : DB and WB both decreases
	4 : DB decreases and DP increases

Here, DB = Dry bulb temperature : DP = Dew point temperature : WB = Wet bulb temperature

A	P-3, Q-1
B	P-1, Q-3
C	P-4, Q-2
D	P-2, Q- 4

Correct Ans: **A**

Itemcode : **AF1071**

Q71: An incompressible flow is represented by the velocity potential function $\phi = 4x^2 + 4y^2 + 17t$. For the flow, which one of the combinations of the following statement holds true?

i. Flow is physically possible;
ii. Flow is physically not possible
iii. Flow satisfies the continuity equation;
iv. Flow does not satisfy the continuity eq.

A	(i) and (iv)
B	(i) and (iii)
C	(ii) and (iii)
D	(ii) and (iv)

Correct Ans: **D**

Itemcode : **AF1072**

Q72: In a free cylindrical vortex flow of air (density = 1.2 kg/m^3), point A is located at a radius of 350 mm from the axis of rotation and at a height of 200 mm from the vessel bottom. Point B is however located at a radius of 500 mm and height 300mm. If the velocity at point A is 20 m/s then the pressure difference between the points A and B is:

A	121.22 Pa
B	10.29 Pa
C	12.35 Pa
D	25.62 Pa

Correct Ans: **A**

Itemcode : **AF1073**

Q73: A gas turbine plant operates on Brayton cycle between temperature limit of 1100 K and 310 K. The maximum work done per kg of air (kJ/kg) and corresponding cycle efficiency (in %) will be:

A	301.3 and 51.2
B	243.3 and 46.9
C	297.6 and 41.2
D	26.7 and 57.6

Correct Ans: **B**

Itemcode : **AF1074**

Q74: Determine the surface coefficient of convection of the inside surface of the tube when the saturated steam at 200^{o}C flows through extra heavy 20 cm diameter pipe at a velocity of 3000m/min.

A	628.7 W/m^{2}K
B	348.7 W/m^{2}W
C	583.8 W/m^{2}K
D	835.7 W/m^{2}W

Correct Ans: **D**

Itemcode : **AF1075**

Q75: Holes in nylon button are made by:

A	EDM
B	CHM
C	USM
D	LBM

Correct Ans: **D**

Itemcode : **AF1076**

Q76: In a time study exercise, the standard time for a job is fixed as 72 sec. The performance rating of the worker is 120. The personal allowance permitted was 10%, the observed time was:

A	68 sec
B	65 sec
C	62 sec
D	54 sec

Correct Ans: **D**

Itemcode : **AF1077**

Q77: Routing is the process of:

A	preparing the time table for production
B	determining the flow of material during the process
C	instructing the procedure of production
D	making a guideline for production

Correct Ans: **B**

Itemcode : **AF1078**

Q78: The value of Z_{max} when $Z = 3x + 2y$ subjected to the constraints:
$x \leq 40$; $y \leq 60$; $3x + 2y \leq 180$; $x, y \geq 0$

A	120
B	180
C	infinite solution
D	unbounded

Correct Ans: **B**

Itemcode : **AF1079**

Q79: 'Shadow price' is the term used in linear programming to define:

A	Optimum cost assigned to the variable
B	Value assigned to one unit of capacity
C	Maximum cost/ unit
D	Minimum cost/ unit

Correct Ans: **B**

Itemcode : **AF1080**

Q80: In the notation (a/b/c) : (d/e/f) for summarizing the characteristics of queuing situation, the letter 'b' and 'd' stand respectively for:

A	service time distribution and queue discipline.
B	number of servers and size of calling source
C	number of servers and queue discipline
D	service time distribution and maximum number allowed in system.

Correct Ans: **A**

Itemcode : **AF1081**

Q81: According to 2011 census which district of H.P. recorded the highest percentage of Scheduled Tribes population in proportion to H.P. ?

A	Chamba
B	Kangra
C	Kinnaur
D	Lahaul - Spiti

Correct Ans: **A**

Itemcode : **AF1082**

Q82: According to H.P. Government notification of 26-03-1981 which one of the following is included in the category of Scheduled Castes ?

A	Lamba
B	Pangwal
C	Jad
D	Dagoli

Correct Ans: **D**

Itemcode : **AF1083**

Q83: Which one of the following district of H.P. is included in the project for diversification of agricultural activities for promotion of organic farming in collaboration with JICA ?

A	Una
B	Chamba
C	Sirmour
D	Solan

Correct Ans: **A**

Itemcode : **AF1084**

Q84: Forest Ecosystems climate proofing project is being implemented in two districts of H.P. One of them is Chamba. Which is the other ?

A	Una
B	Bilaspur
C	Kangra
D	Hamirpur

Correct Ans: **C**

Itemcode : **AF1085**

Q85: In terms of earthquake vulnerability which district of H.P. falls in the very high vulnerability category ?

A	Hamirpur
B	Una
C	Solan
D	Shimla

Correct Ans: **A**

Itemcode : **AF1086**

Q86: What was the contribution of secondary sector to the total GDP of H.P. during 2016-17 fiscal ? (in percentage terms)

A	9.10
B	16.01
C	27.50
D	39.96

Correct Ans: **D**

Itemcode : **AF1087**

Q87: Persons of which age group are covered under the Pradhan Mantri Jeevan Jyoti Bima Yojna ?

A	18 to 50 years
B	20 to 55 years
C	25 to 60 years
D	25 to 65 years

Correct Ans: **A**

Itemcode : **AF1088**

Q88: What is the total number of fruit packing houses of H.P.M.C. in Himachal Pradesh ?

A	3
B	4
C	5
D	6

Correct Ans: **C**

Itemcode : **AF1089**

Q89: At which place is a Government Sheep breeding farm in Chamba District of H.P. ?

A	Parel
B	Mehla
C	Bathree
D	Sarol

Correct Ans: **D**

Itemcode : **AF1090**

Q90: At which place is M/S Ambuja Cement plant located in Solan District of H.P. ?

A	Darlaghat
B	Mehlog
C	Kashlog
D	Harlog

Correct Ans: **C**

Itemcode : **AF1091**

Q91: By which train were several people run over at Amritsar while watching Ravana Dehan during Dussehra ?

A	Howrah Mail
B	Jalandhar - Amritsar DMU
C	Amritsar - TATA
D	Sealdah - Amritsar

Correct Ans: **B**

Itemcode : **AF1092**

Q92: Which movie depicts the Nathula military clash between China and India witnessed in 1967 ?

A	Border
B	Paltan
C	Refugee
D	Line of Control

Correct Ans: **B**

Itemcode : **AF1093**

Q93:	Who was the first Election Commissioner of India ?
A	Peri Sastri
B	S.L. Shakdhar
C	Dr. Nagendra
D	Sukumar Sen
Correct Ans: **D**	

Itemcode : **AF1094**	
Q94:	Who coined the term Hindutva ?
A	Mohan Bhatwat
B	V.D. Savarkar
C	Balraj Madhok
D	Hedgewar
Correct Ans: **B**	

Itemcode : **AF1095**	
Q95:	In which area of Mumbai was R.K. Studio set up by Raj Kapoor ?
A	Goregaon
B	Andheri
C	Malad
D	Chembur
Correct Ans: **D**	

Itemcode : **AF1096**	
Q96:	2018 Nobel prize for medicine was given to two persons. One of them was Tasuku. Who was the other ?
A	James Allison
B	Gerard Mousou
C	Nadia Murad
D	Paul Rome
Correct Ans: **A**	

Itemcode : **AF1097**	
Q97:	What name was given to the hurricane that hit Florida in October, 2018 ?
A	Katrina
B	Butterfly
C	Michael
D	Mangkhut
Correct Ans: **C**	

Itemcode : **AF1098**	
Q98:	Who is the author of **India** : A Million Mutinies Now ?
A	Amartya Sen
B	V.S. Naipaul
C	Vikram Seth
D	Taslima Nasreen
Correct Ans: **B**	

Itemcode : **AF1099**	
Q99:	Which city is called the Windy City ?
A	Washington

B	California
C	Chicago
D	San Francisco
Correct Ans: **C**	

Itemcode : **AF1100** **Q100:** Which day is observed as Malala Day ?	
A	March 19
B	April 12
C	July 12
D	October 19
Correct Ans: **C**	